

# AVIATION WEEK

A MCGRAW-HILL PUBLICATION

AUGUST 7, 1950

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## News Picture Highlights...



**FAIRLEY 17 TURBOPROP DEMONSTRATES CAPABILITIES**

1845 Electronic is about to test the subject of the new Fairley 17 turboprop plane landing on its skids for the first time. The plane is powered by an Armstrong Siddeley Double Model having manual propellers. Note the excellent pilot visibility, a major



consideration in conventional planes. The right-hand photo shows the Fairley's novel wing-folding scheme, each wing breaking in two places to permit storage should cramped airport spaces. The plane features a retractable "ditcher" radio installation.



**BRITISH TURBOPROP FIGHTER**

Usual view of Westland's eight-place strike fighter built for Britain's Royal Navy points up the odd's high-wing wing flap in extended position. The Wyvern has an Armstrong Siddeley Pylon turboprop rated at 3470 hp—on takeoff.



**NEW S-52 VERSION TESTED**

Post flight view of Sikorsky's new S-52B rotor, a common version of the S-52. The rotor tests in a converted by a 245-hp Franklin and has a tip speed of about 114 mph. Cruising speed is about 95 mph. USMP has designated the model YR-21A.



**SKYKNIGHT BECOMES AIRBORNE**

Powerful Douglas F1D Skyknight eight fighters take off at Los Angeles on a test flight. The big carrier-based two-seater is powered by two Westinghouse J-46s mounted at either side of the

fuselage under the wings. The F1D is in the 400 mph class and can operate well over 40,000 ft. The plane incorporates a tunnel escape hatch for emergency exit.

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## AVIATION CALENDAR

- Aug. 24(1)-27(6) National Science Center, Cold Spring, N.Y.
- Aug. 7(16)-Special two-week program on high-temperature ceramics, Massachusetts Institute of Technology, Cambridge, Mass.
- Aug. 7(16)-First United States International Trade Fair, Chicago
- Aug. 14(16)-National West Coast meeting of the Society of Automotive Engineers, Hotel Biltmore, Los Angeles
- Aug. 16-Tennesson air program conference, Knoxville
- Aug. 18-California Air Flight Center, sponsored by Calif. Association Commerce and Defense Clubs, Commerce Airports Commission, Oakland
- Aug. 21(21)-Fourth Annual Air Force Asia national convention, Hotel Statler, Boston
- Sept. 1(16)-Eleventh Flying display and convention, Society of British Aeronautical Engineers, Farnborough airfield, England
- Sept. 7-T-Fair & Wholesome Airplane show and maintenance meeting, Pacific Aeronautics Corp., Los Angeles
- Sept. 8(16)-Third annual meeting of the California Wing of the Air Force Assn., Sheraton Hotel and Spa near San Bernardino, Calif.
- Sept. 10(16)-International Society of America industrial conference and exhibit near the California Shores, Tex.
- Sept. 12(16)-Canadian air meet held for far transportation, Massachusetts Institute of Technology, Cambridge, Mass.
- Sept. 14(21)-Rifts national industrial conference and exhibit, Memorial Auditorium, Buffalo, N.Y.
- Sept. 17(16)-First meeting on aerodynamics and electronics, sponsored by the Institute of Aeronautics, the Royal Technical College, London
- Sept. 21(16)-Aeronautical meeting and air-craft engineering display, House of Aeronautics, Engineers' Hall, Baltimore, Md.
- Sept. 21(21)-1958 annual convention of the American Petroleum Institute, Chicago
- Sept. 21(16)-Aeronautical meeting and air-craft engineering display, House of Aeronautics, Engineers' Hall, Baltimore, Md.
- Sept. 21(21)-1958 annual convention of the International Aeronautical Congress, Paris, France
- Oct. 3(16)-1958 conference on aircraft management and operations, Max West Center Field, North Carolina University of Defense Research, Okla.
- Oct. 14(21)-1958 annual general meeting of the International Air Transport Assn., Farnham Hotel, San Francisco
- Oct. 24(21)-First Biennial Materials Meet Chicago, sponsored by Westinghouse Electric Corp., Hotel Statler, Buffalo, N.Y.
- Oct. 25(16)-Flight Safety Foundation in and Safety Seminar Denver, Colo.

## PICTURE CREDITS

6-10(16) - Photo courtesy of General Electric Co., Dept. of Defense, Ft. Belvoir, Ill.  
11-16(16) - Photo courtesy of General Electric Co., Dept. of Defense, Ft. Belvoir, Ill.  
17-21(16) - Photo courtesy of General Electric Co., Dept. of Defense, Ft. Belvoir, Ill.

## NEWS DIGEST

### DOMESTIC

Lockheed R60 Constitution transporters are back in service with the Navy Fleet Logistics Wing. To prove this mobile for with one of the big trucks carried the entire supporting personnel of Carrier Air Group 7 from Norfolk, Va., to Queen Point, N. J.

Fair American Airways last week set record achievement by CAB to operate a system of domestic routes. The Bureau declared that it denied Parker's recommendation for service between Boston-New York-Philadelphia-Baltimore-Washington because such routes were not supported by the public convenience and necessity. Parker commented: "There must be a double standard on the subject of competition. Competition continues to be accepted as the basic reason for the domestic market, which is a tragedy."

Park Air Lines' domestic operations have been awarded by CAB to the same extent it denied permission to Mid-Continent Airlines to acquire Pacific and instead awarded the north central portion of the Park route to Mid-Continent and the Mississippi valley and Coast Lakes portion to Grunk Airlines. The Bureau declared that "Parks has had ample chance to establish service."

The Bureau of the public protection any further processing of an air carrier that has repeatedly delayed any of its operations.

American Airlines has purchased four Convairliners from American, Inc. Domestic reliability. Possible reason: To badge against further military demands on Airlines' four-engine equipment.

First production of the Lockheed Constellation for the first time July 27 at Hatt Field, England, one year to the day when the prototype Constellation made its maiden flight. In the intervening year the first Constellation has flown over 320 hr. And the testing program is due for steps with two planes ready for flight now.

Redesigning of these new lighters and a broader base have continued by USAP, in line with a new competition policy. Some of the changes have already been noted in Aeronautics West. The improved Republic YB-64 jet fighter, reportedly intended for post-war operations, is expected to be built by North American's P-45, with a radar in the nose and air-to-air, but, goes back to its original designation of

F-102. Lockheed's P-47 night fighter with the jet J-45 Pratt & Whitney engine with turbocharger, is now named the F-402. And Boeing's latest version of its supersonic B-47, refers to its original designation of B-47C instead of YB-55A.

Boeing Aviation Corp.'s new union contract includes a premium plan now payable to the General Motors-UAW plan with a ceiling of \$417.50 monthly. The agreement with the UAW covers 12,000 workers in the plant and will be in force for three years with annual wage increases. Union leaders say the total increase (past amounting to 19 cents per hour).

First RB-56 conversion from B-36B has been completed by Convair's Ft. Worth division. The modification is a direct replacement of 300-lb. Wasp Motors with 1600-hp propellers, installation of four J-47 turbojet pods and fitting the body with complex photographic equipment.

First F-104 Mustang delivery has been made by Convair's Ft. Worth division. The four-engine jet fighter has two engines, each having a P-40 B-6300 Wasp Major and an Allison J-33 turbojet in tandem. Systems Modification are in order.

Third International Air Fair of Aero Club of America, July 11-13, will be held by CAA to meet from Willow Run Airport to Detroit-Wayne County Airport to improve the shore line agricultural traffic at Willow Run.

### FINANCIAL

Republic Aviation Corp. reports a tax loss of \$44,000 for 1957, after taxes, with sales for the period ending \$25,566,156. Bookings for \$40,000,000. For the corresponding period last year, the company was \$17,547 on sales of \$17,770,302.

Boeing Airplane Co. had net earnings of \$3,864,162 for the three-month period ending June 30. Sales and other income rose to \$140,250,931. Bookings at June 30 came to \$115,515,144.

### INTERNATIONAL

KLM Royal Dutch Airlines is first contracted airline to get C-141A Super Hercules to use the Spry Zero Bomber. Cargo airlifters and flight tests were handled at Lockheed Air Terminal and MacArthur Field.

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## WHO'S WHERE

### In the Front Office

Tom A. Mangle and Henry Lohme have been named vice presidents of Republic Aircraft Corp., Mangle, an AF consultant, and former AF representative in Republic, left the office in 1945 to launch individual ventures with managers for Republic Aircraft Co. He joined Republic in 1945 and has served as subcommittee manager, purchasing director, factory manager and contract grant manager. Lohme has been sales manager for the company for three and a half years and participated in contacts for the F-104 and other power plants.

Richard E. Johnson has been appointed to the new position of director of public relations and advertising and assistant to the president of United Air Lines. He takes over the duties held by Earl Braden, who resigned in public relations duties. Johnson started his aviation career in 1929 when he joined Boeing.

Richard E. Johnson has been made vice president—Finance and Gen. W. Swenson has been named vice president—Sales. In Gen. J. Morris Co. David A. Dault has resigned as a director and vice president—Finance. Johnson, most competent in the new position—company of Douglas Aircraft, came to Martin from Boeing service with EDA. Swenson, vice president of General Wright's Washington staff, during World War II, and was active in the Atlantic War Production Council during that period.

Charles R. Cohen, recently named executive vice president of G. M. Dennis & Co., has been placed in charge of all the company's manufacturing and engineering activities on both coasts.

### Changes

Among the Manufacturers-Flight D Team has been appointed also engineer for William C. Whitcomb Co. Dr. Ed. Bruce Wiggins has been given new responsibilities by the Royal Canadian Air Force to act in the flight test program of Avia Canada's C-107 low jet fighter... William G. Kays, Jr. has been made New York manager, in Class L. Martin Co.

John B. Taylor, Jr. has been appointed assistant director of research in AFAP Corp.'s Detroit laboratory. Frank White has joined the staff of Zivoli Parson Co.

Among the Airlines—E. J. Taylor has been named Executive director for North West Airlines, succeeding E. D. McKee who has been transferred to New York. Kenneth B. Higgins, Jr. has been made the carrier's chief of flight standards.

### Honors and Elections

Arthur E. Kelly, Western Air Lines' vice president—Sales, has been named by the USAF to its national advisory Air Staff Committee for Reserve Policy. Harry W. Thompson, Douglas Aircraft executive, has been elected to the Committee last year of America.

## INDUSTRY OBSERVER

Competition for Allison in the turbine propeller powerplant field is moving up. Thousands of workers at the Pratt & Whitney Aircraft 12th anniversary show caught a glimpse of the new PTJ turboprop (rated at more than 1500 equivalent shaft hp.) on the roof of a B-17 flying over the show grounds by its first flight. Allison's T-40 double turboprop also rated at 1500 equivalent shaft hp., is the only large American turboprop now flying. But another serious competitor is the Northrop-developed Turbo-prop, recently purchased by General Electric (Aviation Week July 31).

As conditioning for jet fighters is a growing field into which some of the prominent turbine equipment people are moving, Fairchild Stratton and Hamilton Standard turbine powerplant department are vying for North American Aviation business. Stratton, said the output of the PT-21A jet fighter, Hamilton Standard is making the air conditioning system for the F-84D (G-59A) jet fighter will deliver the first unit this summer. Both systems use turbine compressors, with air as the refrigerant.

USAF has confirmed the previously reported installation of the big Pratt & Whitney J-45 engine in the two-place Lockheed night fighter. Production series will be designated the F-94C (formerly the F-97A). First operational F-94 with the J-45 installation was the F-94B.

A new alternate powerplant installation for Martin's 40-4 transport will be recommended for two proposed high-density versions with 46- and 52 passenger cabins. The powerplant is a 3500-hp. version of the Pratt & Whitney R-2800 engine, designated R-2800-40B-17. Earlier 4-6-6 will have the 3400-hp. R-2800-40A powerplants.

In addition to the Korean shipboard helicopter contract announced by Navy last week, Sikorsky division of United Aircraft has two contracts out of the new competition for an undetermined quantity of its HO4S model, a revised version of the S-51.

Royal Canadian Mounted Police are looking at a three-place Cessna-built helicopter, with possible orders for police work in view. Designated model SC Hawk VED, the craft is manufactured by Itec City, Arizona and was demonstrated at Dorset Airport in eight RCMP representatives.

Besides Hamilton Standard's big new eight-blade dual-rotation turbo propeller, the division is developing a new single-rotation propeller for the Jet Engine. It's described in the latest popular the design has been built, presently with a diameter up beyond the 20-in. mark.

A new automatic propeller release system announced by Air Materiel Command equipment laboratory, contains a lever and an overload element. Both controls are set by the operator before take-off, so that the clutch will open automatically if he loses consciousness. It is designed to prevent fire from high altitude bailouts on high speed plane bailouts, with the automatic opening device being over the projected time interval at altitude.

Aviation Commonwealth Aircraft Corp. is now preparing to build the new supersonic Hunter F101 fighter which Taurus Works recently flew from London to Reno in 21 min. The Americans decided to go for the better model in place of the Hunter F102 jet fighter which had originally been slated for Commonwealth production.

Senate Armed Services Committee has unanimously approved the bill authorizing transfer of USAF's electronics laboratory from Eastman, N. J. to Griffin AFB, Rome, N. Y. Research work for more years to come and national security. Sum of \$5.1 million will be allocated to complete the transfer.

# AVIATION WEEK

## Procurement Goal Pushed to \$7.7 Billion

VOL. 55, NO. 6

AUGUST 7, 1950

### More funds asked for Naval planes, foreign air aid.

By Alexander McFarady

The biggest Naval air aid since World War II was in the making last week to take its place alongside the planned new 69-group Air Force.

In addition, further military aid commitments totaling \$4 billion were requested to provide a sizable U.S. built fleet of new planes for the free nations of Europe lined up with the U.S. against Soviet aggression.

When Navy Plans-A came before the Navy funds—\$750 million—and the \$4 billion were authorized as additional aid to the House Appropriations Committee and last week, it was to be added to the \$70.5 billion previously authorized (Aviation Week July 31). The grand total of foreign and domestic funds now sought on an emergency basis last week stood at \$15.4 billion.

House Appropriations committees last week were holding 12-hour continuous sessions trying to get the complicated arithmetic of this huge emergency budget agreed straightened out. Some aide Washington observers thought the bill might never be passed through both House and Senate by year's end this week.

The new Navy funds being the total allocated for Navy air power in 1951 up to \$2.3 billion. This is past over the total of \$2.2 billion which had been authorized for both Air Force and Navy planes in the similar 1951 fiscal year budget bill, now approved by both houses of Congress.

Foreign Plans—How much of the foreign aid funds was requested for air power had not yet been decided last week, but it was assumed that at least \$1.2 billion of the total foreign aid for 1951 would go for planes. Since Washington sources expected a plan to send at least 1000 U.S. jet fighters to Europe in addition to whatever "market-bid" planes of World War II were transferred for air sales.

Members of the House Appropriations Committee said the extra Navy funds were needed to start building the Navy's plant strength in a level comparable to that sought for the Air Force.

### The Rising Air Power Budget

\$67 more emergency funds requested by President Truman last week boosted totals for 1951 approved budget high above the July 26 figures (Aviation Week July 31). Latest additions were \$900 million more for Navy aircraft procurement, and an undetermined figure for aircraft procurement for foreign aid, estimated at around \$1 billion.

With these additions here is what the 1951 air power budget, including foreign aid, looked like last week (all items are in billions of dollars):

Total domestic appropriations request	\$11.4
Total foreign aid appropriations request	4.0
Total emergency request	15.4

#### For Procurement

Total previously allotted for new planes (domestic), emergency request	\$3.3
New additional Navy funds requested	6.9
New emergency total	4.2
Allocation previously agreed upon by Congress for 1951 Air Force and Navy planes	2.29
Total now budgeted for 1951 (domestic) Military plane procurement	6.49
Award previously allocated by Congress for planes for foreign aid	0.354
Estimated share of \$4 billion new request for foreign aid to go for military planes	1.9
Total estimated for air power in 1951 budget	\$7.7

• **Ten Big Cessna-Ten** before the additional plane funds were added to the Navy's budget, Chairman Carl Vinson of the House Armed Services Committee reported that three big aircraft carriers would be activated, bringing the total to ten, and as well as aircraft being the total number of light cruisers to 14. Among the carriers was a new one now under construction, and the current Essex, now under construction.

The new proposed 69-group U.S. Air Force starts last week with 50,000 in Washington as the equivalent of an actual 72-group Air Force.

The original 70-group Air Force called for:

- 18 Heavy bomber groups
- 22 Day fighter groups
- 14 All-weather fighter groups
- 6 Strategic reconnaissance groups

- 4 Tactical reconnaissance groups
- 10 Troop carrier groups

In addition to these 20 groups of planes, there were to be 22 aircraft squadrons in support, plus the 27 National Guard groups.

• **Pattern Changed**—Pentagon sources last week indicated, however, that the new 69-group Air Force pattern would be changed considerably from the original 70-group concept. Obvious first step is to expand tactical aviation as previously planned (Aviation Week July 17). But further backing up the country's already formidable heavy bomber strength is also in prospect, with orders for more B-36s soon in the cards.

First tangible indication of the way the new emergency funds are to be spent were given last week when the Air Force sent out letters of intent to more than 200 manufacturers. It was

understood that these letters were on a "when-and-if" basis, as far as money not already allocated by Congress was concerned. But the B-36s before already spent money by Congress for the original 1951 Air Force budget was understood to be committed. Tentative allocations were made for planning purposes in the additional \$1.7 billion emergency plan filed for the Air Force acquired by President Truman.

Some Navy letters of intent also went out to manufacturers last week.

• **Top Contractors**—Air Force listed the names of 14 major prime contractors who received work was presumably the bulk of the new plane and engine orders. These included:  
Bell Aircraft Corp.; Boeing Aircraft Co.; Consolidated Vultee Aircraft Corp.; Douglas Aircraft Co.; Fairchild Engine & Airplane Corp.; Lockheed Aircraft Corp.; North American Aviation, Inc.; Northrop Aircraft, Inc.; Republic Helicopter Corp.; Republic Aircraft Corp.; United Aircraft Corp.; Allison Division, General Motors Corp.; General Electric Corp.; and Wright Aeronautical Corp.

Companies by absence in this list are not less Glenn L. Martin Co. and the Curtiss-Wright Aircraft Division. On the basis of this list it was indicated that the following planes could be expected to make up the bulk of the first order:

B-36, B-47, B-49 and C-97; Consolidated Vultee A-36, Douglas C-124, Fairchild C-119, Lockheed F-80 and F-84; North American F-86; Republic F-84; and Fairchild F-26.

• **Trainer Business**—There appeared a strong probability that North American's F-85 trainer, and perhaps its B-45 light jet bomber, also might come in for some of the contracts.

Definite announcement of Navy commitments was still limited to the No. 1 Douglas Aircraft Corp. report of business outlooks last week, but it was assumed that additional contracts would be let or already had been placed for much plane in the Comman F-99 jet fighter, the Lockheed F-94 jet fighter, Douglas A-1 and F-102 planes and probably the Chance Vought XP-70 and Martin patrol planes.

• **4000 Estimates**—The Air Force did not decline how many planes would be built under the new contracts, but did make out the total figure around 4000 planes. The old 70-group Air Force program called for a yearly production of 5300 planes to keep on an even keel of 12,000 new planes with 18,000 in reserve planes.

Before the stopgap, the 45-group Air Force was on a basis of only 5000 modern planes with 1500 modern planes in reserve, and an annual procurement base of around 1500 planes.

## Britain Ups Aircraft Production

Expanded jet fighter output will account for most of the \$200 million additional defense expenditures.

(London—Eagle Hill World News)

Massive expansion of jet fighter aircraft—de Havilland Vampire is and Gloster Meteor is lead items 10 and 11, which are plane reconnaissance types—will make the largest share of the \$100 million additional order for defense equipment now being undertaken by the British government to meet the growing threat of war.

Three new basic jet fighter types are already in production for the RAF, and the new defense spending will merely increase the orders already placed.

Cost effective has given the probable additional numbers of planes as follows: With the necessary spare engines, this would cost an estimated \$64 million.

• **The Last's Show-Up**—This was clearly apparent by Airborne Minister Eric Siebert, in a speech at the House of Commons. He stated that one of the largest items in the extra defense order would be the provision of additional fighter aircraft to increase the RAF's plane reserve strength.

Prime Minister Attlee, implementing Mr. Siebert's statement, indicated that the RAF would get "rather more than half" of the 5300 engines. Of the rest, the Army would get a rather larger share than the Navy, he said.

Thus additional money for production and research compares with a provision of about \$116 million for these items.

the estimates for this current year. The RAF's share will also meet. Similarly, the Army's spending program of overhauling and putting into condition the substantial number of stored surplus aircraft and in the last was the requested reconstruction of this nation's radar warning chain, and extensions and repair of radar stations in the United Kingdom. Since stockpiling of spare and equipment will also be provided for.

• **Start Capable**—The aircraft companies to be affected by the additional fighter production are de Havilland Aircraft and de Havilland Engine companies, and Gloster Aircraft Co. and Rolls-Royce Ltd., makers of the current surplus engines for the Meteor.

Both de Havilland Aircraft and Rolls-Royce are already working at capacity, and they may have some difficulty in further increasing their rate of output. The de Havilland Aircraft Company has of late been shifting all of its Viper production to a new factory acquired about a year ago at Chichester, to make more room at the parent factory at Hatfield for production of the Comet jet airliner.

Only about a quarter of the Chester factory's floor space is now being used. So if an adequate lease floor can be found in that area, there should be ample capacity for more rapid production of the Viperjet. (English Electric, builder of large numbers of Viper-



CADETS TO EVALUATE NEW T-33

Two improved F4U-78 trainers, Air Force cadets, are participating in a major rehearsal of their new basic training type being conducted by USAF groups at Randolph AFB, Tex. Groups of pilots will fly each of the three types and then be transferred to single and two-engine trainers. These ratings will take on a new role to their first trainers. Changes in the 126-kg, 1000-horsepower T-33 include installation of V-1600 and C-1600, wing leading lights which will enhance glare in

low-level practice in areas presented to prevent wind-up landings, larger capacity fuel tanks, new instrument lighting, retractable subfloor of the F-31 type, improved cockpit ventilation and installation of a new liquid fuel system. The plane has a gross weight of 7500 lb. and is top speed of about 170 mph. The built design built for the Navy and designated T-33A, first flew in 1947 and has over 1800 in flight time. New large single-engine flying camp.

pers in the later years of the war and in the early post-war years, but now shifted entirely to production of the Canberra (new jet bomber).

Clifford A. McCarty, a member of the Hawker Siddeley group, is already fully occupied with Meteor production. But a further enlargement of its existing program of subcontracting production of Meteor components to other firms in the group should make possible the handling of new orders.

At present rates of production, the estimated 1050 planes (as estimated) would probably represent about 15 months' production—and unless the production rate can be speeded up (which is not too likely in view of the engine situation), the effect of the new orders would be to prolong the meeting backlog of production by that amount.

► **Shadow Fighters**—Naturally, attention turns to the possibility of using the "shadow fighter" concept for increasing production during the present war. The Government took pains to assure the Opposition that this capacity was still available and that planning for the future is well advanced.

In the House of Lords, Viscount Addison, Government Leader, stated: "The shadow fighters have not been discussed with them [the manufacturers] in the immediate of action times, but the capacity of increasing and the amount of business has never been in great in it today. The Joint War Production Staff has extended this capacity to a very large extent, and in some cases we have given orders to certain firms to keep their war production alive although we were not sure whether we required their products at that time."

Viscount Addison referred mainly, he said, to the manufacture of certain types of aircraft. (Others he probably had in mind was Hawkeye Jet, Nord, and the new production, is also shown transports for British European Airways division BEA's intention to adapt the type A V Roe & Co Ltd. Hawker's premier bomber fighters in the last war, but who haven't succeeded in finding any commercial market for their postwar aircraft, and others, in closing their working on research projects in the future service, like Armstrong Whitworth, Boulton-Paul, and Fairey Aviation, who have also been partly occupied with other aircraft production.)

But the conclusion that can be drawn from activity to fix, in that the expanded production of fighter aircraft will not drop on these shadow fighters.

► **Army Needs**—The army, too, will need additional equipment, as outlined by Mr. Shawcross. Although it has adequate stocks of rifles, machine guns, field guns and artillery, plus ammunition for them, the army will need more anti-aircraft guns, anti-aircraft protectors,

anti-tank weapons, and a considerable number of specialized vehicles.

The acceleration of stored tanks will be given a high priority. Mr. Shawcross declared: "The British anti-aircraft industry, which has at present some surplus capacity due to the shortage of short steel, could well take on the additional work of military vehicle production. But any such activity would be at the expense of commercial production—and would mean a contraction of exports."

The Navy will spend up the modernization of its sailing ships, especially its replenishment vessels, make good its deficiencies in most motor, armament, and miscellaneous equipment and stores, and to a certain extent accelerate the program of new ship construction.

Ground mobile equipment, which Mr. Shawcross admitted still has a good way to go before such weapons can be put into use, will be further stimulated. So will aircraft into counter-attacks against enemy and submarine attack, direct warning and lighter-armed equipment, and anti-tank and anti-aircraft orders. Production of such equipment will not begin until "in the course of the next few years."

► **Defense Budget**—The British will spend \$2154 million on defense this year, less before the extra contribution was undertaken. This represented 13.6 percent of the total Government expenditure for the year, and not equivalent to about 7.6 percent of the total national income, at \$442 per head.

Mr. Shawcross' chief, for comparison, Britain's probable defense expenditures are being met from 11 percent of her national income, with which she maintains an army of more 115 active divisions (one third of which are mechanized), and tank divisions possessing about 15,000 tanks (of which are as possible number as in immediate readiness in the Soviet Zone of Germany). This means about 1,500,000 man make more a figure which could be doubled every modernize. When land forces is backed up, he said, by about 70,000 military districts, including jet fighters and bombers of the latest design, and by considerable naval forces including strong submarine fleets, many of modern design.

The British defense expenditures, according to Mr. Shawcross, "being compared to that of any of our allies and friends," but it is not more of a burden than the \$1000 million the British were spending in 1935. And it represents some loss of a defense, some amount from our time in three times as much now in 1935. A jet fighter costs 100 percent more than a 1935 Hawker, a modern destroyer costs double what one cost in 1935.

► **How to pay**—The British are firmly determined to pay for the cost of the war, and it is not more of a burden than the \$1000 million the British were spending in 1935. And it represents some loss of a defense, some amount from our time in three times as much now in 1935. A jet fighter costs 100 percent more than a 1935 Hawker, a modern destroyer costs double what one cost in 1935.

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KAMAN DESIGNS A WINNER

Anti's description of Kaman Aircraft Corp. HRC-1, winner of New government design competition between Kaman, Sikorsky, Hiller and Bell. The single wings approximately 3800 lb and can carry a pilot and three passengers. Classified to avoid disclosure it can carry two another pilot and a medical attendant. A single engine drives two mechanical rotors. Trick of the

state blades can be changed by a small remote-control actuator. Note nose vertical fin at the rear of the plane is place at the nose fuselage and lower nose. Consistent with the design competition, New has not completed preliminary flight tests at the President Air Test Center of the top-class Kaman K-125 helicopter designed for future projects.

the U. S. allow countries receiving Marshall Aid to use some of their "commodity funds"—that is, the local currency used to purchase the market value of dollars and received from the U. S.—to finance defense expenditures.

As for in Britain, it is contended, there is not so much time for taking the country out of production for the export to the victors of commodity funds.

One thing is clear. The U. S. isn't planning to underwrite the cost with dollars. Whether that may come out of the current receipts in London of the exports of the North Atlantic

Twenty countries, the more that the U. S. is likely to do is to provide some small additional dollar aid for financing the direct cost of goods the market value and certain small new materials to cover the military production that can only be obtained in dollar value.

This additional aid would be a small amount, probably less than the U. S. aid, and would be matched by the country in question using some as equivalent amount of "commodity funds." The European regional office of the Marshall Defense Assistance Program told Aviation Week.

## Aircraft Re-Hiring Starts Slowly

Employment due to be doubled, but manufacturers move carefully until new orders are confirmed.

About half a million aircraft workers are going to be asked to leave for new U. S. air power orders by President Truman.

Analysis of a wide range of industry reports and opinions indicates that an increase in the number of aircraft in service within approximately double the June 1945 figure of 210,000 will be required to do the job.

Under present conditions there appears to be only little resources supply problems to contend with, but that Service moves on the air force has been its ultimate replacement.

Under present conditions there appears to be only little resources supply problems to contend with, but that Service moves on the air force has been its ultimate replacement.

A representative of the Defense Department, serving on an expert defense committee in Washington, is supporting, reliable sources say, as do not think without regard to scientific qualifications at employment. In a full production program, however, he said for them.

John F. Vetter, executive secretary of the National Aviation Council for Americans, who is serving on a special three-day air force committee of administration of defense, service, research and that Britain, Germany and Russia all had effective national service programs in World War II.

Said Vetter: "The U. S. is in the United States," we faced with scientific minds. We permitted ourselves to use scientific institutions to be cut in little more than 10 percent of their former size. We adopted a policy that over 35 or younger could save their nation both only in the fighting from. Our manpower control thinking was in terms of numbers of men and means of equipment rather than in terms of men and quality of equipment."

Cited was a statement by Dr. Van never Burt, head of the Office of Sci-

entific Research and Development.

"We managed to maintain our rights during the war in spite of the system and not because of it and it is now to meet new and every time it should have. A group of about 100,000 military men with the strong support of Secretary Stimson did produce some order out of chaos but the problem of keeping young aviation in the laboratories was one of the toughest and most irritating problems we faced in the war."

The youth of the nation's top expert researchers on missiles, radar and other electronic developments, which will presently be able to service defense in any down-out military struggle, is cited by industry heads as another important reason for freezing in their jobs the key scientific, regardless of age.

A serious effect was expected on the aviation companies, because of the large number of scientists and technical staff members leaving aircraft employment, who would be subject to call, unless special exemptions were made for them.

A draft, under the present 25-year age limit was expected to have less aviation consequences in engineering and highly skilled scientific personnel, especially if it did not include veterans of World War II. Mapmakers' unions considered that many of the top skilled military industry personnel are in the 25. Presumably these would be spared and could be controlled on to train additional younger men.

► **Slow Progress**—Division West pulled principal personnel and engine manufacturers who were hired by the USAF as receiving letters of intent manufacturing over \$4 billion for planes. They reported slow progress in employment of new personnel.

► **Aviation Corp.** with three plants at Seattle, Kansas and Wichita, and with three airplanes to build (C-47, B-25 and C-47), will need

"several thousand new employees" to add to its present group of 35,000 workers, a spokesman said. • **North American Aviation, Inc.**, Los Angeles, reported it is now hiring at the rate of 50 a day, but that manpower requirements are not great at that time until new workers are being brought in to work on the P-51 Mustang reconnoitering orders, and for specialized skills.

► **General Electric Corp.** expects to make additional manpower requirements for its P-47 jet engine production in the Lockheed, Ohio, assembly plant, will be possible for GE's 216 subcontractors who make the engine components and ship them to Lockheed for assembly. The Lockheed plant had assembly crew to be a relatively small percentage of the total additional manpower required. Additional manpower will be needed, in amounts not determined, at the Lynn, Mass., GE jet engine plant.

► **Fairchild Engine & Airplane Corp.** is looking both new employees, and hiring some new ones in the new plant at the Fairchild, N. D., aircraft division, but in building up its force slowly. Similar conditions were reported at its Ranger engine plant.

► **Douglas Aircraft Co.** interrupted its normal hiring plan for the expansion program of manufacturing C-74 transports at Long Beach, Calif., as indicated by letters of intent. Previously Douglas had 14 of the big transports on order. The company had ordered in 1935 to 1937 additional employees to recondition B-25 bomber bombers from the northfield base was placed two weeks ago.

► **Republic Aircraft Corp.** will need many new workers on its contract, but had a small-scale employment program under way to increase production of engines and propellers already scheduled for production.

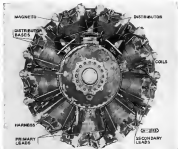
► **Consolidated Vultee Aircraft Corp.** was expected to hire additional personnel at Ft. Worth and probably at San Antonio, but there were no firm reports as to company's hiring program. Republic's letter of intent called for additional 3-15 bombers, beyond the 1935 backlog requirements, indicating a further step-up in production.

► **Republic Aviation Corp.** has notified about 1400 employees recently laid off and will add them in a gradual building up, pending, before starting any large-scale hiring program. Republic's letter of intent calls for P-51 jet fighters, presumably of the E type now in production, and possibly the new swept wing P-54.

► **Grumman Aircraft Corp.** Early last week was still working several of its letters of intent looking for new employees to increase its present employment.







FRONT VIEW OF R-1000 mounting low tension system. Note coil adjacent to plug.

to ensure rapid behavior in the distributor.

In 1941 Scintilla gave priority to two projects in an effort to solve this difficulty.

• **Supercharging the distributor component.** This was done and proved successful.

• **Developing a low tension actual ignition system.** Once the full potential of this study was realized, the company decided to accelerate its efforts to create a successful actual application. Factors were relative simplicity of the system, its ability to reduce plug erosion and reduce susceptibility to plug fouling. By 1942, Scintilla had delivered its first two systems to the Wright Aircraft Company for evaluation—one for the R-1038, the other for the R-5150 engine.

During the next year, Pratt & Whitney secured a system for the R-2800. P&W and CAA approvals for this engine were not received until 1947, and CAA approval came through in 1949.

Currently, the company is also carrying low tension projects for the P&W R-2100C and R-3100C.

• **Ignition System Classification.** Says Hils recommends that ignition systems be classified. The following was cited as a useful method:

- **Low Tension System—Distribution of more than 1000 v.**
- (a) Audio frequency
- (b) High frequency
- **Low Tension System—Distribution of less than 1000 v.**
- (a) Audio frequency
- (b) High frequency

Of these four classifications, Scintilla

asserts that the low tension, audio frequency system offers the maximum solution to the operator when considering actual system and plug costs, chronic performance and overall maintenance.

• **Low Tension Benefits—Robert Hays,** Scintilla senior sales engineer, has completed an analysis which positively shows that a low tension system will solve:

- **Sparkplug erosion rate by as much as 6470 percent.**
- **Off-schedule spark plug removal rate by up to 70 percent.**
- **Active delays, due to system trouble, possibly 18 percent.**
- **Rate of unscheduled stoppage as much per 1000 hr. as scheduled plug removal time by as much as 45 percent.**

Other advantages claimed are reduced fuel-over in altitude, and a weight saving of 16 lb. per engine.

An advantage of the R-1000 low tension system is to give the equivalent of two 9-cylinder magnets instead of one 18-cylinder magnet often low tension point.

• **Low Tension Theory—Hays** said that the amount of the secondary coil from the magnets and the transformation of voltage adjacent to the plugging brought about these advantages. Since the capacitance of the secondary circuit is greatly reduced, the energy discharge across the electrode gap is decreased.

The three factors controlling plugging erosion are heat, time and the accompanying electrical heat (energy). These are all diminished, he claimed, with low tension.

Maximum leakage resistance is the

key of the ability of an ignition system to fire a partially fouled plug. It will vary with the frequency or rate of rise of voltage on the main electrode. The frequency is controlled mainly by the electrical constants of the secondary circuit—inductance in the secondary coil and capacitance. Since these are both greatly reduced in low tension, rate of voltage rise is increased and maximum leakage resistance is reduced 60 percent.

Hays added that this was also true for high frequency systems, even to a greater degree, but claimed an advantage in the lower cost of plugs for the low tension system.

• **Outlook—Scintilla** sees a bright future for its low tension system and claims:

• **Dollar and cents advantage of the system can justify conversion and maintenance of its low cost cost.**

• **Industry acceptance of the principle of low vs. high tension system is growing.**

• **Commercial military use of improved engine strength now seems indicated, on which low tension system will be used.**

• **Rapid development is taking place of low tension ignition equipment for engines for non-aviation purposes.**

The company presently is engaged in the development and construction of aircraft and marine ignition systems (jet, rocket motors and supercharging engines), ignition systems and switches, audio interference filters, electrical connectors and related products. New applications include industrial engines, pumps and carburetor motors.

## Redifon Will Make Delmud Simulators

Delmud flight simulators will now be built in England, Ray T. H. Hays, president of the Genie-Wright Corp., Caldwell, N. J., has announced.

An international licensing agreement, negotiated through Genie-Wright's Praxair division, allows Redifon, Ltd., London to produce flight simulators for American and European-designed aircraft. They will be built under patents held by the American company.

"The Redifon agreement has important economic and military significance," Hays said. "It was negotiated in accordance with the stated policies of the U. S. government to build up European industry and to aid in any country to become self-sufficient by enabling them to produce for themselves equipment that require at the least possible expenditure of dollars." Genie-Wright is the first manufacturer to be built by Redifon will be for the Boeing 777 for delivery to British Overseas Airways Corp.



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## NEW AVIATION PRODUCTS



### Apron Refueler

A fresh approach to aircraft refueling—done away with tracks and departing from the usual conception of portability—is exhibited at the Aero Cell, a telescopic refueler recently developed by the Witter Corp., New York. This compact, relatively small installation contains many convenient features aimed at making smooth refueling more efficient. It already has created considerable interest in airport circles. The Port of New York Authority now is studying one installed at Teterboro Airport, New Jersey.

Manufactured by the Aero Cell is the Conventional Equipment Division of Todd Shogren Corp., 5110 Forty-Fifth Ave., Elmhurst, Queens, L. I., N. Y. Witter is responsible for engineering and sales.

The Aero Cell is a completely self-contained refueler, except for outside power supply lines feeding its electrical current, fuel and fire extinguishing fluid. It contains merely a cylindrical steel cell mounted on a truck-like lifting jack. By flexing a dead-end electric switch, the cell can be extended to a maximum height of 12½ ft. or less than a minute or can be retracted into the ground, flush with the apron surface.

An integral cover at the top of the device is strong enough to support the weight of the heaviest conventional car and truck, according to Todd. The cell, about 5 ft. in diameter and 5 ft. high, contains fuel hose, ground wire, water, fueling and detection controls, C/O hose and nozzle, small refueling and pressure wiring which automatically extends and retracts in the cell is entered or lowered.

These units are designed to be installed in pairs on the apron, so that when the plane taxis into position a cell will be located at each wing. To operate, an attendant steps on the fuel cover of the refueler, opens a switch cover and views it to a lighted control panel that is at the wing leading edge. He then projects the wing

which extends to a point several inches above the wing streamlines past the leading edge. The refueling does not have to touch the wing at any point, but proceeds as a dry slip-drive to the wing surface.

To retract, the operator opens the access cover to the hose compartment in the cell, presses a retracting switch and pulls the hose and nozzle over the wing, away to the wing tank filler opening.

Todd lists standard, quickly produced Aero Cell units would cost less and be more efficient than underground refueling pits built specially for each airport—each fitted by a different contractor. An advantage over airports is that the hose is deflected precisely on the spot for upper wing surface refueling, removing the need for excessively lifting and dragging it up and over the leading or trailing edge of the wing. For refueling leading, the hose can be pulled out at the cell retracting back in the ground.

Witter says Aero Cells can be produced with overall equivalent to best fuel delivery rate over 280 gpm.



### Big Plane Aid

A new addition to the family of aircraft ground handling equipment is the WILP Unit developed by Wills Aircraft Products, 34717 Glendale Blvd., N. Hollywood, Calif. This device is designed for maintenance operations around large planes. It has a working height of more than 30 ft. and a 16,000-lb. capacity.

A prime advantage claimed by the maker is that it can be rapidly disassembled into 16 small sections and reassembled in a new location. The built-in rail to be highly maneuverable, permitting it to be moved quickly to a

new position or around a fraction of an inch for installation problems requiring accuracy and close proximity. It is particularly useful for installing engines, gun barrels, tail sections and similar work.

Naturally, and electrically-operated, versions of the unit are available. Lift speed is listed as 4 ft./min. and about 0.2 ft./min. when the work is electrically driven either on 24v d.c. or 110/220v a.c. or current.

The unit mounts on a triangular-shaped structural base, mounting ball-bearing action, solid rubber tires. Leveling jacks are provided for compensating field irregularities. Net weight of base is 5400 lb.



### Lightweight Nutplate

Flange-type, self-locking nut plates, made by Nut-Bolt Co., 317 East 2nd St., Los Angeles, Calif., in lightweight part conforming to Specifications AN-N-5 and -10. Nut has same dimensions as AN-365F and AN-162F aluminum nut plates and is designed to withstand high loads and temperatures up to 130F. of the nut is approximately 1/4 in. from center in all directions.

### Replaces Templates

A new instrument designed to take for on transparent paper the exact contour of a model, doing away with the need for cutting and fitting templates, is being marketed by John Lister Engineering Co., 4545 Wilshire Ave., Detroit 7, Mich.

Called the "Dylograph," the device is said to be designed to be used for securing accurate readings on tracing discs which frequently cannot be checked with ordinary templates. The firm says it also can be used to draw accurately the moment of spring back and warp, as a jet block, a strapping the end other parts.

The device reportedly will speed inspection procedures in manufacture of products which require close following of models. It gives cross-section lines relative to each other, usually on vellum, which are checked against the draft or layout. The firm points out that results in a full contour check of completed parts with only a spot dimensional check by former methods.

## AVIATION WORLD NEWS



GENERAL VIEW shows work platform of the maintenance dock, built by Air India International engineering personnel.



CONSOLE is undergoing routine inspection at Bombay International Airport. No. 2 engine platform (right) has wing jacks in position.



### Air-India Maintenance Simplified

Work dock for servicing company's Constellation incorporates many safety and time-saving features.

**Bombay**—A new work dock designed to take some of the work out of maintenance and overhaul of Air India International Ltd.'s Constellation has just been completed here by the Ramston Engineering Center.

The dock consists of a series of work platforms arranged to give convenient access to any part of the aircraft beyond the main cabin door. Safety rails are raised all the platforms. Working lights and ladders have been incorporated to keep those working on the planes and guard them out of the way of moving airplanes.

• **Quick Entry**—The aircraft is raised

into position by a motor driving a cable attached to the plane's nose wheel strut. An electrically driven wheel will be incorporated in the system soon.

The entire docking operation takes about five minutes. It is controlled by one man using "stop and go" light visible to the tractor driver and the person at the plane's locker. Main wheel stands on the ground rest the plane where it has entered the dock automatically. The chocks are removable to permit extraction of landing gear and work on the wheels.

These design features are estimated to make maintenance work quicker.

• **Platform** flaps which can be lowered out of the way to permit free rotation of wing of the propeller.

• **Movement** over each engine carrying three ton block and tackle for hoisting and controlling powerplants and propellers.

• **Wing** jacks, hydraulically operated, for lifting the plane off the ground.

• **Direct-current** generator with voltage regulation for powering 24-volt supply to operate aircraft services independently of the plane's batteries.

• **Mainline** hydraulic rig for power-checking hydraulic services.

• **Propeller** dollies, on which props can be thrustled after removal by means of overhead pulley, for convenient storage until needed.

• **Hoist-Crane**—The dock, except for the hoist in which it is housed, was designed and built entirely by Air India engineering personnel.

## Newer Look

British network of old designs gives new types at minimum cost.

(McGraw-Hill World News)

**London**—British aircraft engineers have been busy giving some of their old designs the New Look—thus getting up-to-date types with a minimum strain on the budget. The refurbished craft are by Vickers (the VC-3 transport), Gloster (the F. 8 and F. 10 photo fighters) and Northrop Aviation (the new communications plane).

The Vickers VC-3 proved as a Viking replacement is still in the design project stage and no decision has yet been made to produce a prototype. It incorporates the fuselage landing gear used on the Varsity KAP bomber currently now in quantity production. The VC-3 would carry 27 passengers at a cruising speed of 155 knots over stages up to 11,750 meters (38,700 ft). A crew of two and standard would be standard.

The VC-3 would presumably be powered with two Bristol Hercules of approximately 2000 hp each.

• **British Development**—Gloster's continued development of the Comet Meteor design has resulted in two photographic reconnaissance versions.

• **F. 8, 9** has three camera mounts in addition to two 20-mm cannons. The nose has been slightly strengthened and fitted with a flat slightly domed window for one camera position. Two other windows in the side of the nose permit oblique photography.

• **F. R. 10** is an advanced high-altitude camera plane having the F. R. 9's nose plus additional camera mounts in the rear of the fuselage. For optimum high-altitude performance the Meteor F's longer span wings are fitted to the F. R. 10, as is the Meteor 4's tail assembly. Cockpit and engine rest are as in the F. 8.

• **New Pioneer**—Scottish Aviation's new Pioneer is a five-place commercial version of the A-4/H-5 liaison plane developed by the RAF's own design team. Instead of the 250 hp DH Gipsy Queen fitted to the A-4/H-5, the Pioneer is now powered by an Alfa Romeo six-cylinder radial power plant of 120 hp. Top speed is given as 160 mph, cruising speed is 140 mph and range is 400 mi. at 15,000 ft. Service ceiling is 21,000 ft. Takeoff run is said to be 500 ft and landing run 650 ft.

During flight trials at Farnborough, Scotland, the Pioneer is reported to have considerably taken a "bite" out of the wallet of the navy. This performance is made possible by the use of tailplanes



F. R. 8, developed from Gloster Meteor design, mounts three cannons and four 20-mm cannons.



METEOR F. R. 10, mounted high-altitude photo plane, has Meteor 5 wing and Meteor 4 tail.



VICKERS VC-3, shown here in order's drawing, may replace the Viking transport.

and Fowler and split flaps reaching over 50 percent of the wing span. The Pioneer is now undergoing

flight trials for an airworthiness certificate and is expected to go into service in Australia following approval.

### Bulgarian-Soviet Air Group Formed

(McGraw-Hill World News)

**Sofia**—A Bulgarian-Soviet Air Group has been established here to run Bulgaria's domestic airways. According to the Soviet weekly, Izvestia, Sofia via Budapest, and with the Soviet Airways, which runs between Sofia and Moscow,

It is reported that the new company is a 50-50 partnership between the Bulgarians and the Russian Two-engine Soviet planes, described as "modern," with 20 passengers capacity, not operating on the route (about 150 kilometers between Sofia and the Black Sea).

Close relations are being maintained between the Bulgarians and the Czechoslovak Airways, which operate the three-weekly line Sofia-Praha via Budapest, and with the Soviet Airways, which runs between Sofia and Moscow.

## AERONAUTICAL ENGINEERING



CLEAN nacelle housing has high-speed oil seals with Kaplan intakes on behind propeller primer grid.



DUCT for engine air, one of eight units, splits to go around drive shaft, returning to a round section at the compressor fan, insensitive with duct.

### Turboprop Installation Design Highlights



TURBINE assembly for gas box, showing the panel connecting box for air ductwork connections.



GEAR BOX installation, with four screws visible.



PUMP, controls and system schematic, with quantity given in "code" squares.



FAIRED POWER UNIT of the compact engine, XT40-A-4 turboprop, one from the bottom, looking forward. Behind oil cooler into four air lines on expansion to improve on the rotor cooling.

### on XP5Y-1

For details of General's XP5Y-1 powerplant installation (Airbus XT 40) point up some of the problems to be faced by designers of turboprop aircraft.

The accompanying photos and some powerplant data were presented by F. H. Rupp of Consolidated Motors Aircraft Corp., in a paper "Current Turbine Power Plant Installation," at the recent annual summer meeting of the Institute of the Aeronautical Sciences, in Los Angeles.

General's giant flying boat was designed to be self-sufficient in adverse areas and be able to operate from unpaved bases.

To that end, the turbo powerplant was designed and arranged from the wing. Auxiliary can be mounted on disconnected with special heating equipment carried aboard the craft.

Much attention has been given to getting the necessary air into the engine and cooling in the most efficient manner. Compressor intakes are located in the wing leading edge, with the propeller disk, for maximum ram effect.

Ram air passes with a minimum of disturbance through a split duct (which divides around the drive shaft) to the engine inlet.

The air cooler, placed below the engine intake, is supplied with coolant air from what appears to be an NACA high speed type of inlet. Because the cooling problem is amplified when the boat is on the water, pressure is applied from the engine compressor section into an engine port downstream of the air cooler.



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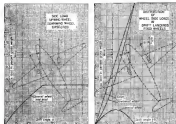


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Gears on T-4 trainer has 16-1/2 inch outer side of wheel.



Charts show variation of wheel side load with full gear swivel gear.

## Swivel Gear Interest Quickens

New developments in progress of swiveling landing gear continue to create additional interest in this segment of existing aircraft designs.

John H. Geiss, former CAA consultant, has brought out his own simplified type of swiveling gear. He estimates it can be put on an airplane as original equipment at cost to manufacturer for labor and material of only \$15 a unit.

Goodrich Aircraft Corp. has an associated side of its first swiveling wheel to the Air Force. Air National Guard would install units on the jets on "T-6 trainers for reduction in pilot training."

Capital Airlines already has taken delivery of its first Douglas Super DC-1 with Goodrich swiveling wheels and will put it on two other ships in fleet-line routes. In the latter case, the transport already experienced the

swiveling gear in the country.

Inference in performance between the Geiss gear and others developed under CAA sponsorship, including the Goodrich swiveling wheel, has pointed to the reduction in weight of the wheels from swiveling interest. "They will turn out, but not in Geiss-wheel problem of side loads on the wheels and determined that this reduction was an added safety factor that was desirable."

He has selected a maximum side load of about 1/2 the weight of the airplane as a rule for good performance and adequate life control.

The former CAA consultant brought out his new design in an effort to persuade aircraft manufacturers to build it themselves and install it on their own planes in original equipment and has no immediate plans to manufacture it himself. He is negotiating for its adoption as original equipment with

such firms as Piper and Cessna, and is also discussing its possible use with the military services.

Geiss explains the theory of his new device like this:

It is essential that the main wheels be capable of generating most side force. Otherwise, only the propeller wheels would control the path while in the ground.

Center sections in the form of arms, springs or hydraulic arms have been used on retractable mainwheels to enable the wheels to provide this side force. With such devices the side force is equally distributed between the two main wheels. In the Geiss gear, the downward wheel carries out without restraint. The desired side load is obtained entirely from the upward wheel which resists from upward, because of swivel restraining steps.

Parts used in a Piper Cherokee (aircraft) of the Geiss gear included a center spindle made integral with the wheel axle and provided with a notched collar to stop inward movement; a special bearing connected to the Piper landing gear strut, a split ring to hold the spindle in its bearing, a light tension spring to hold the wheel against the stop in the air, and a cap in axle end out of the spring and hold the split ring in place.

The spindle bearing was shaped pointing toward the ground, ahead of the wheel. This arrangement would cause a tendency for the wheels to turn in, without the inward restraining steps. No steering dampers are provided, and there are apparently no means due to the fact that the wheels will not enter through center.

Besides the Piper Cherokee installation, the Geiss gear has been fitted and tested on a Bellanca Courier, and on a Twin Beech airplane. Transport, by modifying existing swiveling gear on these planes to incorporate the new Geiss principle.

The former CAA consultant has stated that centers of control, swivel now in the market for swiveling gear would be "swivel" to suit for gear development to become commercially available, first because of the structure of swiveling gear itself but also because of the need for side.

## Zero Reader Orders

Producers orders for an redesigned number of Zero Reader flight instruments is again CAA's Northrop P-101 aircraft interceptors, have been announced by Sperry Gyroscope Co., Great Neck, N. Y.

The Zero Reader has already been designated for installation in the North American F-100 fighter version of the Sabot, according to Sperry.

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First American operational jet was the Lockheed P-80, the Justice Shooting Star, still the backbone of many U.S. squadrons. The first American jet trainer was the Lockheed T-33, which today continues to be the only U.S. jet trainer airplane.

Now, Lockheed "first" is being produced in quantity at the Lockheed jet plant. The F-94 All-Weather Interceptor Fighter is the first production all-weather jet to go into service for the U.S. Air Force.

The F-94 provides America with another "first," around the radar-aided defense. Advanced radar equipment permits that speedy jet to intercept and engage targets in total darkness and in adverse weather which would ground today's standard fighters.

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## Avro's Orenda Gets Flight Check

Flight testing of the Orenda, power plant built by Avro Canada, has begun at Kitchener Airport near Toronto.

Two of the engines have been installed in the outboard sections of a converted Lancaster bomber originally made by Victory Aircraft, Avro Canada's forerunner. The engines will then be tested over a wide range of flight conditions to supplement the hundreds of ground run hours already accumulated on the Orenda.

Purpose of the flight tests is to confirm the performance of the engines before installing them in the CF-105, Avro Canada's all-weather fighter (Rolls Royce Avons are presently fitted in the CF-105).

Much emphasis will be placed on evaluation of fuel system and controls. Flight maneuvers will subject the en-

gine to loads and accelerations not possible in ground tests.

✶ Another Conversion—The converted Lancaster is powered by two Rolls Royce Merlin piston engines in the outboard sections, in addition to the two Orendas. Weight can be trimmed by these piston engines alone.

Single fittings were substituted for the front and rear gun turrets on the Lancaster. Complete reconstruction of the aircraft was done, but possible witnesses of the flight testing into strict conditions.

A last observer's statement panel has been installed at the navigator's position, and photographs are located to the rear of the fuselage.

Performance data on the Orenda are correct. So are all the data on the Lancaster, as far as endurance, range and performance go.

## DH Comet Features Submerged Antennas

The sleek look of de Havilland's jet-powered jetliner, the Comet, is due in part to a completely submerged antenna system developed by Marconi's Wireless Telegraph Co., Ltd., England. The Comet is the first British civil aircraft to be so fitted, although the Aerospace Industries is slated to have such a system.

One of the Comet is electrically insulated from the fuselage structure and serves as a high frequency antenna. Dielectric tips of its rods protrude from the VHF and ILS aerials. A medium frequency and antenna is submerged in a dielectric panel in the nose-wheel doors, and the ADF loop is installed in the fuselage top under flush dielectric windows.

The ILS glide path indicator antenna is placed behind the windshield and the ILS marker, DME and radio altimeter antennas are all housed in windside fillets.

In addition to the submerged antenna system, the remainder of the Comet's radio communication and navigation and equipment has been captured and constructed by the Marconi company.

## Test Fire-Resistant Hydraulic Fluid

A Civil Aeronautics Administration DC-4 has proved 250 hours of flying time with Hallamstead H-2 flame-resistant fluid in its hydraulic system at the Standardization Center in Oklahoma City. Only minor problems, such as seal swelling and filter clogging, have developed.

A CAA DC-3, operating from the same base, has accumulated several tens of hours using Hallamstead U-4 fluid.

Conversion of magnesium brake components has been the only trouble encountered so far with this low pour point system.



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## Copter Analysis

Plasecki reviews ten failings of present-day rotary wing craft.

By David A. Anderson

What's wrong with today's helicopters?

Ten things, says Frank N. Plasecki, chairman of the board of Pando Helicopter Corp., and designer of tandem helicopters. And then he proceeds to enumerate and discuss the major weaknesses against rotary wing craft.

When he finished, the audience—a joint meeting of the American Society of Mechanical Engineers, the Institute of Aeronautical Sciences and the American Helicopter Society—had heard the ten faults laid squarely at the feet of designers. They had also heard some suggestions for tomorrow's coplan.

▶ **Blame Dandies**—The ten typicisms split up on a six and four basis, with the larger number placed at the door to the



stockroom entry. Aerodynamicists down the other four again. And the complete list reads like this:

▶ **Structural Responsibility**: Dependability (handful) has never transcended which can prevent cheap, nondurable (where it is a function of engineering restrictions on the speed and life of rotating parts), all-weather operations (but only where blade strength is constant or engine or rotor assemblies are factored), vibration, complexity, cost.

▶ **Aerodynamic Responsibility**: Flying qualities, payload (not where necessary, some have bettered lifting efficiency), range (not by adding fuel, but by subtracting drag, speed).

▶ **Dependability**—Helicopter operations have been hampered by a mixture of man-made such as oil pump pressure loss, lubrication system block, bearing bending, clutch wear and the like. The solution, says Plasecki, will

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come from more accurate knowledge of loading conditions, the operating stresses produced by these loads, and by careful and extensive metal tests.

No effort should be spared during the design of a new helicopter in average tone of the surface on all dynamic loads.

► **Maintenance**—Today's cockpit requires the highest percentage of maintenance hours to be spent in the removal and replacement of those components for periodic inspection and overhaul.

One reason for the disparity between rotary and fixed-wing craft is in the engineering restrictions on the operating life of the cockpit parts. Cocking wing to these restrictions are lack of operating experience, isolated failures, incomplete stress values and insufficient structural data on load rate and occurrence.

The next, it was stated, would come when sufficient numbers of rotor hubs and transmissions have accumulated long service life without failures, permitting an extension of the arbitrary-limited overhaul period.

Possibly added a pertinent comment: "The maintenance factor is directly under the designer's control, and with sufficient experience upon it in his design, further progress can be made."

► **All-Weather Operations**—Blowing, freezing, rain and dust damage the ordinary rotor blade severely. Made wing a problem. Cold often kills rotors.

And so, the designer calls for metal blades, even the latest results of his testing of the blade wing problem, and which a suitable stress tolerance.

► **Vibration**—Much concern is expended on the helicopter because of its vertical bounce as well as its vertical lift. Most of this bounce stems from real causes although it is frequently exaggerated. All the causes of vibration consisting from the rotor system are not fully known as yet but want to investigate them as to their seriousness and their effect on the structure as well as methods by which their dissipation during use can be eliminated are definitely known and available to the designer.

"These considerations must be given to the design in its original conception."

► **Complexity**—Rotating parts cause most of the complexity of rotor construction.

Some simplification of complexity does not seem attainable without drastically the present transmission scheme entirely, going to jet rotors, for example.

"Much can be done, however, in simplifying detail design."

► **Cost**—Rotary wing craft are penalized with many mechanical complications, expensive to manufacture in small lot production. And of course, the helicopter has not had the benefit of any



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large-scale production units, so that testing units could be completed over many aircraft.

The implications here are fairly obvious, too. Designing for the application of existing machine tools, manufacturing of materials and processes, and volume production are the answer. And the first two can be supplied by careful design.

► **Flying Qualities**—The primary system here was excellent stability, resulting in "vacuous pilot effort to maintain continuous blind flight."

Loads can actually be reduced by the use of target or zero systems, thereby relieving some of the strain on the pilot.

While the problem of blind flight in the hovering regime is one that has not been completely solved, methods to achieve this have been conceived. Although Pando did not specifically mention it, the zero-altitude sensor developed by Bell Aircraft Co. (Aviation Week June 26, 1951) would appear to be one of the applicable methods.

► **Payload**—Pando stated that the metal load of the largest helicopter is less than one-tenth that of the largest airplane.

This disparity can be cured both by increasing its useful load, and improvements in the lifting efficiency both of these items are being.

Then there is the, for example, so obvious limit to the ground use of the helicopter rotor. One prospect, and Pando, place a device to convert to a light tank.

From data, loading, fuel, and so on, it is possible to increase the lifting capacity of present-day ships. Generally, the more higher lifting speeds in a situation, but research programs will provide information for the design.

Structural and aerodynamic efficiency increases also will improve the weight-carrying characteristics of rotors, whose current metal load capabilities represent about one-third of the gross weight. For driving the rotor, a gas turbine, instead of the present piston engine, can increase the useful load by 35 percent. Payload, combined with metal load, depends on cargo, but even at 200 miles, the improvement due to the turbine is about 10 percent.

► **Range**—Since most helicopter systems are short-range, this particular problem does not appear too bad. It can be solved by design, and it seems desirable to do so.

Any day reduction, for example, benefits the range and drag reduction is one of the chief features of new designs.

Pando also said that the zero could be extended by light refueling.



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It was no place for man or machine. They called it Little America, a frozen outpost on the edge of the Antarctic. From this dreary base, Admiral Byrd and his crew headed their Ford Tri-motor monoplane due south into the unknown—and flew

back a few anxious hours later marked for fame as the first aerial explorers of the South Pole. It was a milestone in flight metal history, too. Byrd's plane was all-metal—with spars, bulkheads and skin of Alcoa Aluminum.

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## AVIONICS

### Indicator Monitors Power Supply

Bendix development warns of a.c. supply failure, low voltage; features small size, lightweight indicator.

Failure of power supply for gyroscopic flight instruments can now be detected quickly by means of a new warning device.

Now in production at the Edgemoor Division of Bendix Aviation Corp., the indicator will give warning of either low system voltage or failure in one or more phases of the ac power supply.

And this warning will occur several minutes before gyroscopic instruments, which gives the pilot ample time to switch to a standby power supply.

Small, 3-in.-physically, the power failure indicator is about the size of a standard vacuum tube. It is normally mounted near the electric gyro flight instruments.

Triangular in shape, the indicator depends upon the Hall voltage characteristic of a thin induction meter mounted inside.



A cup-shaped indicator card, half painted black and half transparent, is mounted on the front end of the meter shaft.

A glass cover, half painted black and half transparent, encloses the sensing card.

Normally, the induction meter is energized by the ac power supply. The rotor works against a helix spring which permits rotation until the helix spring torque equals the meter torque.

Display Method—Under these conditions, the instrument face is completely black.

Should the system voltage drop to 25 volts from its normal value of 26 volts, the helix spring begins to overcome the motor torque, and the luminous half of the sensing card begins to show.

The degree to which the card becomes visible depends on the amount of voltage drop.

Should the system voltage drop below 15 volts, the standby power indicator comes in very place, the luminous half of the sensing card becomes completely visible.

Specifications—Edgemoor Division designs the power failure indicator as Type 16120, with two subtypes whose difference lies in the color of luminous paint available—yellow or orange.

Weight of the indicator is about 5 oz., including plug and leads. It has a polished, bakelite-type socket, with three 36-in. leads.

Power required is 25w., 480-cycle 3 phase 440-volt circuit, with a phase rotation of A-C-B.

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## SALES & SERVICE

### Public Forum

Free monthly aviation  
meetings begin as sales  
aid by Tecumseh school.

Tecumseh School of Aeronautics is going after prospective students with a new idea approach—monthly aviation forums open to the public.

The first session, staged without the extensive publicity planned for later meetings, garnered two students. In addition, the school's head, Charles Willis, former president of Willis Air Service, believes the talks will serve two other purposes. First would be the present student body and build company prestige.

Willis also believes the new idea will cut considerably the cost to the school of \$30 for each new student lead.

► **Coolish Spending**—Willis is planning to gift speakers for those forums who can candidly discuss current aviation operations and problems without being tied down in their remarks by official considerations.

Each forum will present three speakers. Willis now is organizing for local radio station cooperation and may have the discussions recorded for broadcast.

As part of the forum idea, the school will be taking on a tour of the schooling facilities to the interest in signing up. The school's records show that most of those taken on such a tour have signed up for courses.

Willis considers the forum a good tonic for maintaining interest in the courses. He estimates that about 35 percent of his students drop out before completion, and feels that by educating these body discontents by new ideas in different phases of the industry, the original enthusiasm of the students can be rekindled.

### Civilian Schools To Train AF Mechs

The Spartan School of Aeronautics at Tulsa, Okla., and Gilman Technical Institute, Glendale, Calif., have been awarded contracts totaling \$592,000 for training 190 USAF mechanics and engine mechanics.

The two schools, sharing equally in the contract, will train 775 enlisted personnel each. Training periods will last 35 weeks, which is the maximum length of time allowed by current military

technical schools giving the student instruction.

The program is being tried by USAF to test the possibility of technical training by civilian contract. It follows completion of a study which was completed last year by Stanford Research Institute.

Report of the Institute pointed out that industrial background training could be obtained through elimination of administrative overhead involved in military organizations. Accompanying military administrative facilities, teachers and personnel needed for mounting a military training base (technical or non-technical) are also estimated to cost as much as high quality of trained personnel are produced continuously, it was said.

The two schools were chosen from among 41 civilian agencies submitting proposals in the Air Force for the test training project.

Training by the two schools was scheduled to begin last week and will be completed by June 16, 1951.

### Air Fair Aid

Detailed suggestions for forming a technical unit or line can be found in a new Civil Aeronautics Administration booklet. Airport equipment illustrated in striping book are shown on pick up many handy pointers.



STEVE WITTMAN'S BUTTERFLY

This new little high-wing monoplane, built by young pilot Steve Wittman back in 1935 to fight the his flexible steel angle steel landing gear, is still used by him to test new design ideas and to provide transportation to his estate. The butterfly sports two side-by-side. It is powered by an E-180. Con-

cluded are suggestions on sponsors, financing, construction, program, exhibits and follow-up. An appendix describes in detail "well-run, well-planned and effective" air fair. Pictured up in how such a display can be handled in its educational content and in its entertainment, rather than how it degenerates into a "third-class" affair, it says so.

The booklet is available for 25 cents from the Dept. of Commerce, Government Printing Office, Washington 25, D. C.

### BRIEFING FOR DEALERS AND DISTRIBUTORS

► **Plane Ownership**—More than one-half of U. S. private planes are located in California, with Los Angeles county registered—17795, according to figures that show the number of new sales 11.5 singly. Upper Middle West and East hold the lead in total number of planes registered last 11.9, 944 planes registered, Texas 6951, and Hawaii has 4529.

► **Holder Test Payments**—A "layman's" plan to make helicopter purchase easier on the pocketbooks of potential private and agency customers has been worked out by Helicopter Corporation. "The Paley Alta, Calif., has developed a helicopter mortgage device," using a capital source built up from steadily increasing sales to finance purchases.

powered flight with a two-place wing prop. Top speed is said to be 130 mph., cruising speed 110 mph., and landing speed 30 mph. A two-wheel tailwheel design landing gear is now undergoing testing on the plane. Wittman also built a two-place personal plane, now being tested.







only federal complaint to CAB against air crash. It is that Eastern Air Lines' and Delta Air Lines' Chicago-Miami route traffic would result in revenues below the cost of operation, adding that the Civil Aeronautics Act, previously construed, prohibits such loss. CAB approved the route despite the national objection.

How much revenue has air coach brought from the mid? The nation carries about 100 million in air "hundreds of thousands of dollars."

The Indiana cites a CAB survey showing that about 15 percent of the air coach travelers in August and May, 1949, were diverted from the railroad. And between San Francisco and Los Angeles (where air coach is so full), the Southern Pacific's morning and noon "dayliner" cut 5.7 percent of their passenger during December 1948, while overloading midwest passenger traffic grew 17.2 percent.

Wasp Co. Airlines-FRP thinks that it comes in here to stay even though it is low down the railroad's financial strength in jeopardy. The firm owner (which sometimes doesn't see eye-to-eye with the Association of American Airlines) thinks the mid route is a counter attack, sure, but with supersonic equipment and lower fares.

"Too often," FRP notes, "the railroad have won, without applying the lesson, that a full train of 100-coach per-

sonal passengers will produce a higher net return than a full-empty one at coach coach fares." The California route that despite their coach loss in revenue since 1946, which brought the level from 2.1 to 1.75 cents a mile. Eastern railroads suffered a percentage decline in passenger traffic and revenue.

## Navigator Shortage Hits Pacific Airlift

A series of deaths of qualified navigators is placing commercial airlines participating in the Pacific airlift under constant to the airlift.

As a result, the Civil Aeronautics Board has promulgated a special Civil Air Regulations enforcing limited flight navigator certificate. Object is to top the large pool of former military navigators who have not obtained instructor for commercial operations.

Full Test Deferral—applicants for limited certificates must have served an active duty as a naval military navigator for at least six months since Dec. 7, 1941. They must demonstrate to CAB their competence to navigate aircraft, but they will not be required to pass the full written test for an unlimited navigator's certificate for that period.

The limited certificate will expire after three months, and can not be renewed. Companies possessing the limited talent will be permitted to select only on relief operations conducted pursuant

to contracts with the Defense Department.

CAB has issued more than 800 regular flight navigator certificates since Aug. 1947. But perhaps half have gone to military who are also pilots.

Survey showed that comparatively few qualified navigators were available for the emergency airlift. Federal agencies agreed the airlines to include navigators in their crews on long overseas trips.

Training Program—American Airlines, which has made seven of its DC-4s available for the Pacific airlift, a complete, specialized training program. Candidates must have 500 school hours of aerial navigation experience, either commercial or military, and must be physically qualified.

Acceptable candidates will be given transportation to the West Coast, where they will undergo training in a navigation school operated by Pan American Airways. They will draw salary during the training. Candidates failing to complete the training course will be given entry transportation to point of origin.

## Feeder Exec Pay Bumps CAB Ceiling

Feederline executives who want to earn more than \$12,000 annually are sure to change jobs.

The Civil Aeronautics Board, in factually setting new salary rates for Trans-Texas Airways, declared the person at President R. E. McKaughen's salary which was set \$12,000. McKaughen was paid \$12,600 last year and \$12,000 in 1948, with a small part of expense being allocated to the company's Sales and Service division.

Refusing Explanation—CAB said it does not question the integrity of the value of the salaries of the TTA president from the viewpoint of the nation's stockholders that, it concluded, "where the current salary is based on a mail pay support, we believe that the rate-making purposes the maximum salary which should be underwritten by the government is \$12,000 per year."

McKaughen was the highest-paid feederline executive last year. Kennerly was All American Airways President Robert Lee, also received \$14,000.

CAB tentatively increased TTA's mail pay for each period to prevent the carrier to show a 7 percent profit on its occasional investments. The mail rate per plane mile was boosted from 65 cents to 65 cents.

A proposed massive sliding scale rate for the future will provide Trans-Texas to break even at a passenger load factor slightly in excess of 23 percent.

## Rooftop Helipad for Los Angeles

Los Angeles is to get a rooftop passenger helipad on top of a twelve-story downtown building.

The helipad will be financed by the Pacific Mutual Life Insurance Co. and be located on the firm's building at Sixth and Grand, Los Angeles Airways, which now operates certificated mail and express helicopter service, will lease the rooftop facilities. LAA has already applied to the Civil Aeronautics Board for authority to operate passenger helicopters in and around the Los Angeles area.

San Monica to Airport—Plans for the helipad include a junction top step passenger bridge reached by express elevator and connecting directly with the helicopter landing area by express Air passenger would be able to reach Los Angeles International Airport from the downtown modern in no more than 10 minutes. Consideration would be timed for all major airline schedules.

LAA President Clarence M. Schenke has an overall view of passenger helipad development. Southern California is already making plans for a passenger helipad terminal.

Bolton has expressed interest in helipad designed to land 12-20 passengers. The company's two-year-old service is conducted with Sikorsky S-51s.

## Modern Exemption Denied by CAB

Modern Air Transport, one of the best-known, franchised operators in the Eastern seaboard, has been denied an individual exemption which would have permitted it to continue its irregular services.

The consideration is limited to avia-

tion Civil Aeronautics Board and Marine had suggested from New York to Miami, San Juan and San Juan with excessive regularly. In January, 1949, at the request of CAA and CAB, a federal district court in New York issued its injunction prohibiting the company from engaging in other than regular operations.

Recent Cities—Modern has been active since 1945. During the last quarter of that year it made 82 flights between New York and Miami, and 16 between New York and San Juan. The carrier owns two DC-3s but has also been using DC-4s. Its business has been granted generally through better operations, including 26 in the New York area alone.

CAB and Modern had demonstrated such a disregard for compliance with Board regulations that it is not in the public interest to contract the company with authority to render regular air service. The Board's order is to be effective on Aug. 1 unless Modern agrees to demonstrate on a hearing.

## CAA Consolidates Air Facilities

The Civil Aeronautics Administration has announced consolidation of airport traffic control towers and runway communication facilities at 16 municipal airports. The order followed tests at Lyttelton, Va., and Colorado Springs, Colo., airports where the control operations showed satisfactory.

Other airports in the consolidated system will include: Augusta, Ga.; Air Spring, Tex.; Beaumont, N. D.; Bismarck, N. D.; Burlington, N. J.; Columbus, N. Y.; Dallas, Tex.; Denver, Colo.; Fort Worth, Tex.; Houston, Tex.; Miami, Fla.; Portland, Me.; Sioux City, Ia.; Sioux Falls, S. D.; Tokyo, Kans.; and Tri-City Airport, Tenn.

The consolidation is limited to aviation facilities at the airports. The consolidation is limited to aviation facilities at the airports.

ports which will normally air mass transit flights originating from New York to Miami, San Juan and San Juan with excessive regularly. In January, 1949, at the request of CAA and CAB, a federal district court in New York issued its injunction prohibiting the company from engaging in other than regular operations.

## Troubleshooter for El Presidente

A special "troubleshooter" C-46 cargo plane has been assigned to visit and advise Cuban officials. Airways' newly reorganized El Presidente flights between New York and Buenos Aires.

The plane carries a complete "lower package" including a Pratt & Whitney R-1600 engine with auxiliary and accessories, cost of which is \$115,000, PAA says. And aboard is all the equipment for handling the 1500-lb. peremptory baggage (over the 1000-lb. weight limit) which is normally loaded aboard at Rio de Janeiro, the C-46 is named by a pilot, repair and two cabin mechanics who are on call all times.

## Seattle Crush Suit

The 27th damage suit filed at Seattle as the result of the crash site on April 1 at Seattle Boeing Field, a commercial airline carrier brought damages sought to more than \$400,000.

Named as defendants in the latest action—has \$11,500—was Air Transport Associates, Inc., Air Transport Associates Sales Co., Inc. and Air Line Service, Inc. This is the first suit to name both the system airlines and broker selling corporations as defendants.

Seven persons were killed when the plane, with 32 persons aboard, struck electric wires and exploded in a residual area shortly following landing.

## Branniff Posts Profit

Branniff Airways turned in a \$402,000 profit during the first six months of 1949, and President T. E. Branniff has declared an equally profitable second half.

This year's earnings compare with \$143,330 loss during the first nine months of 1948. Operating expenses for the year's first six months of \$1,317,000, although expenses also increased by \$785,000. Revenue passenger mileage was up 9.5 percent.

Recent acquisition of a DC-4 for military service and the Pacific is not expected to affect the carrier's earnings adversely.



SARINA PICKS UP AIRMAIL COPIERS

Will 47-D1 Delivered to be used by Swiss Air as mail pickup and delivery service in Europe are loaded into one of the airline's DC-4 cargo planes at Miami's airport in Belgium. The Boeing cargo plane will be operated by Sarina airline.



AMERICAN'S SOUTHERN HEADQUARTERS

Airline's branch shows the 12-story structure of the building will house the American Airlines' new offices. The new Civil Air Force World International Airport. Construction is expected to start this month, with completion scheduled for September, 1951. The building will be 187 ft. wide by 225 ft. deep, providing 40,700 sq. ft. of larger area adjacent by 47,700 sq. ft. of

shop, maintenance and office area. Storage portion of the building will house a fixed-wing of built-up steel aircraft parking a north-south spacing of 23 ft. American's southern regional operations and other headquarters will be located in the office area. Architect architects for the building are the Chicago and office architects are Joseph R. Polich and Francis M. Green.









## What's Ahead in Congress

### War Investigations

Congress will keep a close eye on the expanding war rehabilitation program.

The War Investigating Subcommittee, named last week by Chairman Milford T. Tamm of the Senate Armed Services Committee, will fill the void of the famed Truman Committee of World War II, whose harsh and sometimes questionable criticism of the performance of aircraft manufacturers and Air Force officials in a few isolated cases was balanced by considerable helpfulness to the industry and the military in solving equipment, priority, and other problems.

Presenting Sen. Lyndon Johnson (D., Tex.), a lieutenant commander on the aircraft carrier Midway in the last war and an aggressive proponent of air power, heads the group, which includes Sen. Virgil Chapman (D., Ky.), Sen. Estes Kefauver (D., Tenn.), Sen. Lamar Hunt (D., Wyo.), Sen. Stephen Byrd (R., N. H.), Sen. Everett S. Sutherland (R., Mass.), and Sen. Wayne Morse (R., Ore.).

On the House side of the Capitol, Chairman Carl Albert's Armed Services Committee has already quietly moved forward in closed-door sessions with key defense officials to determine the reasons for the past U. S. showing in Korea in the light of the \$30 billion spent on defense over the past four years, the present status of the country's defense, and the requirements to assure U. S. capability to meet future Russian challenges. Shortly, Vinton, Capital Hill's spokesman for the Joint Chiefs of Staff, will make a floor speech outlining the present status and future defense requirements. But whenever questioning is called for, Vinton will do it in private.

Meanwhile, resolutions for two additional House investigations are being pushed. Rep. Clarence Cannon is seeking authorization to set up a war investigating subcommittee of the Appropriations Committee, of which he is chairman, and Rep. Emanuel Celler, the New York New Dealer who has made a specialty of attacking corporations, is backing a seven-member special House investigating committee to scrutinize war contracts. The House leadership is expected to leave war investigating to the competent hands of Vinton's Armed Services group.

### Airmail Separation

A \$300,000 appropriation has been voted the Senate Interstate and Foreign Commerce Committee, headed by Sen. Edwin Johnson, for studies looking to the establishment of a new mail pay rates on domestic airline routes.

Johnson plans to contract with private accounting firms for the studies. His theory is that the loc's share of "subsidiary" to an carrier should be written off as subsidiary to the towns which are being serviced economically.

Wrangling in the House Interstate and Foreign Commerce Committee over legislation authorizing the Civil Aeronautics Board to make a \$400,000 study and dividing it to separate service mail payments from about payments to air carriers appear to be much ado about

nothing. The House Appropriations Committee has already served notice it will approve funds for a CAB study.

### Prototype Testing

Clashes for enactment of legislation authorizing the Civil Aeronautics Administration to spend \$12.5 million over a five-year period on testing of prototypes for new commercial transport and cargo planes is enhanced by Congress' decision to remain in session indefinitely. The bill is now before the Senate for action.

Independent air carriers will open their doors against it today in testimony before the House Interstate and Foreign Commerce Committee. They claim it will do nothing toward solving the pressing need for additional airlift, but will only retard the development of "lumpy laws" to accommodate an inflationary proportion of the population.

### New Laws

Amateurism in which Congress completed recent action will:

• Permit CAA to finance advanced engineering or other training of 25 of its personnel annually, or conduct its own advanced training courses.

• Authorize the Secretary of Agriculture to apply rules and regulations designed to protect U. S. agriculture from importation and spread of dangerous pests to air commerce.

• Make false identification of aircraft a criminal offense, subject to a \$1000 fine, three years imprisonment, or both. The measure is aimed at deterring illegal registration and smuggling by air.

### FAA Investigation

Caught on the House Judiciary Subcommittee, headed by Rep. Celler, to vote away from an investigation of Pan American Airways—until the latest over the recent North Atlantic merger decision has subsided. The subcommittee was scheduled to open hearings on monopoly charges against PAA in July. "It's still on our agenda—the staff is studying the matter," Celler told Aviation Week. "But because of the Korean situation, I don't think we'll be able to get around to hearings for a few months, at least." If PAA's acquisition of American Overseas Airlines "is related to its monopoly position in the airline industry, I am sure the staff will investigate it," he said.

### Air Safety Board

The House Interstate and Foreign Commerce Committee is set to approve legislation setting up an Independent Air Safety Board, being aggressively pushed by the Air Line Pilots Assn. But the overwhelming odds at present are that the legislation will be killed off in the Senate.

(Editor Robert H. Wood, whose editorial usually appear on the right, is on vacation.)

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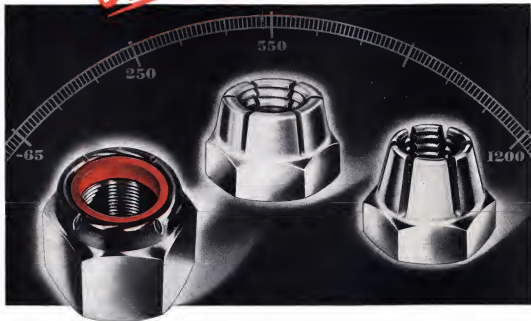


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